

REMARKS

Applicants thank the Examiner for consideration given the present application. Claims 1-3 and 5-8 are currently pending. Claim 1 and 5-7 have been amended and claim 4 has been canceled through this reply. Claim 1 is independent. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

Amendment

The amendments made to the claims do not add any new matter to the application and do not raise any new issues.

The subject matter of claim 4 has been incorporated into independent claim 1.

The Claims Define Patentable Subject Matter

The Office Action rejects claims 1-8 under 35 U.S.C. § 103(a) over Japanese Patent Publication No. 2003-345114 to Tsuda in view of Japanese Patent Publication No. 08-339115 to Iguchi further in view of U.S. Patent No. 6,963,713 to Isomura et al (Isomura). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, “the conveying portions being formed at intervals in a circumferential direction thereof and the axial direction, of which adjacent two conveying portions in the axial direction being arranged in such a manner that an end portion on a downstream side in the rotation direction of one conveying portion and an end portion on an upstream side in the rotation direction of the other conveying portion adjoin each other in the axial direction” and “the conveying portions are formed so that the conveying amount of the developer by a conveying portion formed in a close portion to the discharge hole becomes larger than the conveying amount of the developer by a conveying portion formed in a distant portion from the discharge hole.” The applied references fail to teach or suggest the recited features of independent claim 1.

The present invention discloses that “the adjacent conveying portions in the axial direction are arranged in such a manner that the end portion on the downstream side in the rotation direction of one conveying portion and the end portion on the upstream side in the rotation direction of the other conveying portion adjoin each other in the axial direction. Therefore, the portions between the adjacent conveying portions in the circumferential direction, will not be arranged on the same straight line or the same spiral orbit. Accordingly, even when the container main body is given a twisting force from the outside about the axis, a bending force from the outside and an impact and even when the container main body is given a pushing force inward in the radial direction, the occurrence of damage and deformation of the container main body can be prevented as much as possible.” See page 12, line 11 through page 13, line 1 of the specification.

Tsuda discloses intermittent toner conveying portions 7 as shown in Fig. 5. However, the conveying portions 7 are described as forming “an intermittent spiral.” See paragraph [0046] of Tsuda. Thus, the portions between the adjacent conveying portions in the circumferential direction will not be arranged on the same straight line or the same spiral orbit are not taught or suggested by Tsuda.

Also, Isomura described that “in terms of the axial direction of the rotary type developing apparatus, the conveyance ribs 2d in the top members 2-1 of the container main assembly 2 and the conveyance ribs 2d in the bottom member 2-2 of the container main assembly 2 are alternately positioned, whereas in terms of the direction perpendicular to the axial direction of the rotary type developing apparatus, the conveyance rib 2d and conveyance rib 2d partially overlap by their lengthwise end portions. The amount of the overlap (measurement of X in drawing), which here is measured as the length of the projected image of any of the overlapping portions of the conveyance rib 2d and conveyance rib 2d, is roughly 5mm.” See col. 9, lines 27-39 of Isomura. Thus, Isomura fails to teach or suggest that the portions between the adjacent conveying portions in the circumferential direction will not be arranged on the same straight line or the same spiral orbit. Iguchi fails to cure the deficiencies of Tsuda and Isomura.

The present invention also discloses that “since the conveying portions are formed so that the conveying amount of the developer by the conveying portion formed in a close portion to the discharge hole becomes larger than the conveying amount of the developer by the conveying portion formed in a distant portion from the discharge hole, it is possible to positively prevent the developer located on a close position to the discharge hole from being pushed into the discharge hole by the developer located on a distant position from the discharge hole. Accordingly, the developer located on the close position to the discharge hole is pushed into the discharge hole by the developer located on the distant position from the discharge hole and thereby, the developer can be positively prevented from being coagulated in the neighborhood of the discharge hole.” See page 15, lines 4-19 of the specification.

The Office Action relies on paragraphs [0022] and [0027] of Tsuda for disclosing the conveying portions. However, the above mentioned effect for preventing the developer from being coagulated can be achieved by difference of pitch and height between two conveying grooves whose spiral orbits are different from each other in Tsuda. Therefore, by comparing the groove structures between the present invention and Tsuda, the developer container of the present invention offers advantages over the developer container of Tsuda. The developer container of the present invention substantially prevents a twisting force from the outside in the axial direction of a container main body, a bending force from the outside, a pushing force inward in a radial direction, and damage and deformation caused by an impact. See page 12, line 11 through page 13, line 1.

Isomura and Iguchi fail to cure the deficiencies of Tsuda. Accordingly, the applied references, alone or in any combination, fail to teach or suggest the recited features of independent claim 1.

For at least the reasons stated above, independent claim 1 is patentably distinct from the applied references. The dependent claims are at least allowable by virtue of their dependence on corresponding allowable independent claim 1.

Accordingly, withdrawal of the rejection of the claims based on the applied references is respectfully requested.

Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Obert H. Chu, Reg. No. 52,744, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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